

WHAT IS CLAIMED IS:

1. A discrete semiconductor device comprising:  
die bond pads and wire bond pads arranged at specified  
intervals,

5 discrete semiconductor elements which are fastened on the  
back face thereof onto the die bond pads and have electrodes  
electrically connected to the wire bond pads, and

10 a sealing resin provided on one side of the die bond pads  
and the wire bond pads thereby to seal the discrete  
semiconductor elements.

2. A discrete semiconductor device as claimed in claim 1,  
wherein

15 the die bond pads and the wire bond pads are electrically  
conductive metal sheets which are fastened at specified  
positions on the back of an insulating sheet and have aperture  
in the insulating sheet on the metal sheets, and

the sealing resin is provided on one side of the die bond  
pads and the wire bond pads thereby to seal the discrete  
semiconductor element.

20 3. A discrete semiconductor device as claimed in claim 2,  
wherein

the plurality of discrete semiconductor elements are sealed  
with the integral sealing resin.

25 4. A discrete semiconductor device as claimed in claim 1,  
wherein

the die bond pads and the wire bond pads are the metal

50 sheets which are cut off as born by the sealing resin that is formed on an electrically conductive metal sheet, and

51 the sealing resin is provided on one side of the die bond pads and the wire bond pads thereby to fasten the die bond pads and the wire bond pads at specified intervals and seal the discrete semiconductor element.

52 5. A discrete semiconductor device as claimed in claim 4, wherein

53 the plurality of discrete semiconductor elements are sealed with the integral sealing resin.

54 6. A discrete semiconductor device as claimed in claim 4, wherein

55 the plurality of discrete semiconductor elements, having the die bond pads and/or the wire bond pads in common, are sealed with the integral resin.

56 7. A discrete semiconductor device as claimed in claim 1, wherein

57 the discrete semiconductor device has electrodes on the back thereof and is electrically connected with the wire bond pads.

58 8. A method for producing a discrete semiconductor device, comprising the steps of:

59 forming the plurality of sets of die bond pad and wire bond pads by fastening electrically conductive metal sheets at 60 specified positions on the back of an insulating sheet and making apertures in the insulating sheet on the metal sheets,

packaging for fastening the back of the discrete semiconductor elements on the die bond pads and electrically connecting the electrodes of the discrete semiconductor elements and the wire bond pads,

5 sealing the plurality of the discrete semiconductor elements installed on the insulating sheet with an integral sealing resin by sealing the packaging surface of the insulating sheet with the resin, and

10 dividing the sealing resin into the discrete semiconductor devices by cutting off the sealing resin around the discrete semiconductor elements.

15 *2.* A method as claimed in claim 1, wherein the step of packaging described above also include a step of fastening the back side electrode of the discrete semiconductor device onto the die bond pad to electrically connect the die bond pad and the back side electrode.

20 *3.* A method as claimed in claim 1, wherein the dividing step also be a step of cutting off the sealing resin around a plurality of discrete semiconductor elements grouped as a single body, to obtain the discrete semiconductor device wherein the plurality of discrete semiconductor elements are sealed with the integral resin.

*3.* A method for producing a discrete semiconductor device, comprising the steps of:

25 packaging step wherein a plurality of discrete semiconductor elements are fastened, on the back thereof, onto

an electrically conductive metal sheet and an electrode of each discrete semiconductor element is electrically connected to a specified position of the metal sheet,

5 sealing the packaging surface of the metal sheet with an integral sealing resin, a cut-off step of cutting off the metal sheet by cutting therein from the back thereby to turn the metal sheet into die bond pads and wire bond pads which are arranged at intervals, and

10 dividing the discrete semiconductor devices by cutting off the sealing resin around the discrete semiconductor elements.

15 ~~5~~ <sup>12</sup>. A method as claimed in claim ~~11~~<sup>4</sup>, wherein

the packaging step also include a step of fastening the back electrode of the discrete semiconductor elements onto the metal sheet and electrically connecting the metal sheet and the back electrode.

20 ~~6~~ <sup>13</sup>. A method as claimed in claim ~~11~~<sup>4</sup>, wherein

the dividing step also be a step of cutting off the sealing resin around a plurality of discrete semiconductor elements grouped as a single body, to divide the discrete semiconductor devices each carrying the plurality of discrete semiconductor elements being sealed with the integral resin.

25 ~~7~~ <sup>14</sup>. A method as claimed in claim ~~11~~<sup>4</sup>, wherein

the cut-off step also be a step of cutting off the metal sheet in such a way as the die bond pads and/or the wire bond pads connected to the plurality of discrete semiconductor elements become an integral body, and

the dividing step also be a step off cutting off the sealing resin around the discrete semiconductor elements which are formed so that the die bond pads and/or the wire bond pads connected to the plurality of discrete semiconductor elements 5 become an integral body, thereby to obtain the discrete semiconductor device wherein the plurality of discrete semiconductor elements which share the die bond pads and/or the wire bond pads in common are sealed with the integral resin.

09595312 01.00

nic